

ABSTRACT OF THE DISCLOSURE

The invention concerns a frequency multiband antenna comprising: a photonic bandgap material (142) having at least one band gap, one single periodicity defect (156) of the bandgap material so as to produce several narrow bandwidths within said at least one band gap of said bandgap material, and an excitation device (160, 162) capable of transmitting and/or receiving electromagnetic waves within the narrow bandwidths.